

# Midstate ARC

PUBLIC SERVICE P.O. BOX 21  
ACTIVITIES WHITELAND, IN

The MIDSTATE AMATEUR RADIO CLUB Newsletter

Vol 4 Ed 1

Next Meeting: March 16, 1985. Guest speaker will be Bruce Woodward, W9UMH, who will present the Club with an ARRL affiliation plaque. There will be no February meeting, because of the Swapfest activities. As always, the meeting will be held at the House of Franklin at 0800, with the breakfast starting at 0730 Hrs.

President	Paul Thomas	KA9DTH	881-6338
Vice-Pres	Joan Kemp	N9DON	736-9355
Sec-Tres	Tom Carroll	N9AZD	535-8047
Trustee	Darrell Sego	KM9S	736-4049
Activities	Ed Woods	WD9DVA	887-3510
ARES E.C. tor	Dan Dews	KK9G	882-8843
	Bradley Stone	NB9M	882-5245

## From the President's Desk...

Please consider the list under the Field Day column to be a plea from me for your help. I ask each of you to show your willingness to participate.

With this early start, the time required from each of you will be small, and the results very large.

The list excludes many of us who have other club duties, but we will all be involved.

N9EKG has agreed to oversee the planning process although due to a previous commitment, his attendance at Field Day may be limited. I talked

## MINI DX-PEDITION, 1985

Since the initial beginning of Midstate ARC, there has been much interest in having what is known (among us, anyway) as a mini DX-PEDITION. Such an endeavor would take a hardy crew of pioneer breed to small, out of the way towns with bizarre names, such as Russia, Indiana. With little investment, we would be at the other end of the pile-up for a change, and with the talented DXers and contesters we have among us we should be able to handle it nicely.

Interested in helping? Have any ideas? Please call our President to get a committee going. We will make this a reality, because we've accomplished so much before.

## WELCOME TO MIDSTATE!

Win Hardisty, K9EMV  
Charles Adams, KC9BO

him into this undertaking by assuring him that the club would back him up. I'm sure that each of you can find three or four hours between now and the end of June.

If for whatever reason (pre-scheduled surgery, prearranged jail term, etc.) you find yourself unable to help your club with this annual event, please call me. N9EKG will be in contact with you in the near future.

Paul  
KA9DTH

3/85  
(5)

# N9AZD/R IS GROWING UP!



Thanks to a \$600.00 grant for a large corporation who graciously wishes to remain anonymous, our repeater has a bright future indeed. What can we do with just \$600.00? Perhaps that could be best answered by pointing out what the tech committee (N9AZD, KN9E and WB9YAJ) did for around \$300.00. The old G.E. Progress Line has indeed proven to be reliable and remarkably clean, and doesn't have to be sent to the factory every so often like many other local systems, notably the \$1200.00 solid state ones. What does it take to get the best coverage for the money? Most agree antenna height is the secret. The repeater committee is putting their heads together for a cost effective way of reaching the sky. Larry, WB9YAJ is putting the finishing touches on the touch tone encoder, KM9S is scrounging around with several other hams for good tower deals, and our 440 MHZ sys- should be a reality in a few months. What the repeater committee needs now is your ideas. What do you want and expect from your repeater? Do you want the toys, or do you want simplicity? Something in between? Please let them know now so they can move ahead. In the mean time, watch your S-meter.....

## Treasury

We now have 22 paid members as of January 16, 1985. Total cash on hand is \$35.00, with a balance in savings of \$773.24. This is because of a \$600.00 grant from a large Corporation (Details elsewhere in this issue).

TOM  
N9AZD

### FCC AMATEUR RADIO EXAMINATIONS

FCC Amateur Radio Exams for all classes will be given on Saturday, April 6, 1985, at the American Red Cross Chapter, 441 East 10th ST, Indianapolis. Candidates who wish to take an exam must mail FCC Form 610 (latest revision), a copy of latest license (if any) and a check or money order for \$4.00 to ARRL/VEC to Louise Clark

2317 Fisher AVE  
Speedway, IN  
46224

Also, please enclose an SASE to help defray costs. The editor is involved with this dedicated group of people as an examiner, and they still need more Advanced and Extra class licensees to help.

Did anyone notice?  
Our penny-pinching E.C.  
finally broke down and  
bought an H.T.

**Be a Part.**  
**JOIN THE FASTEST**  
**GROWING CLUB AROUND**  
**FOR THE RADIO AMATEUR.**

**SEND YOUR \$12 AND QSL**  
**Midstate ARC**  
**P.O. BOX 21**  
**WHITELAND, IN 46184**

**FIRST ANNUAL MIDSTATE  
SWAPFEST  
FEB 16, 1985**

The First Annual Midstate ARC Swapfest is Saturday, February 16, 1985 at the Whiteland Community Center. The festivities start at 1pm, and last until 5pm. A pitch in dinner will start at 4pm. This is a great opportunity for a good afternoon of fun for the family. This event is for Midstate ARC members, their families and invited guests, and is not open to the public. Several tables will be provided, and at this time don't appear to be a problem, so just bring your stuff.

Also in the festivities there will be a homebrew contest with three awards (Best Construction, Most Original, and The Pits). N9DON will give haircuts! Her price is \$4.00, and \$2.00 will go to the club. KN9E will check out and line up your two-meter rig for a \$2.00 club donation. There is even a Crafts and White Elephant Sale (No clothing please).

Coffee and Juice will be available. Helen Thomas is coordinating the covered dish needs; her number is 881-6338. Please bring your own table service.

This event is to have fun, buy, sell and trade trash (see Ham of the Day) and treasures, and to raise funds for the club repeater and Field Day expenses.

**Schedule of Fees:**

\$1.00 per adult at the door  
\$1.00 per Exhibitor +10% of sales  
(honor system)  
\$4.00 per haircut, may be more for  
the Dolly Parton heads. \$2.00  
goes to the club.  
\$2.00 for the rig checkout and adjust-  
ment (100% to the club)  
.25¢ for drinks.

HOPE TO SEE YOU AND YOUR FAMILY FEB 16!

**Tentative list of Field Day Officials:**

Program and Activities Chairman- Ed Woods, WD9DVA, 887-3510  
Field Day Coordinator- Mark Quebe N9EKG, ph. 787-9169  
Field Day Secretary- Dave Wendt, KA9OOH, ph. 784-1044  
Asst. Secretary- Brad Stone, NB9M, ph. 882-5245  
On Site Coordinators- Tom Siefert, WB9RCI, 888-4765  
(personnel scheduling)- Win Hardisty, K9EMV, 881-4018  
- Chuck Adams, KC9BO, 241-4121  
Electrical Supplies and- Sandy Sanders, WA9RDF, 736-5643  
System Grounding - Bill Fisher, KG9K, 535-5946  
- Jim Bedwell, WA9MPH, 535-5381  
Radios and Associated - Larry Kemp, N9DLN, 736-9355  
Equipment - Homer Keesling, WB9OZZ, 736-5456  
- Ralph Walsh, KA9FFC, 888-6730  
Antennas, Supports - Dan Cammack, W9MLN, 888-9877  
and Co-AX - Rudy Richardson, KN9C, 881-1575  
Food and Drink, sup. - Bob Flood, W9BBE  
- Bob Doles, WB9AYB, 738-2908  
- Jay Chrisman, KA9MUU, 882-7773  
- Al Soltis, WA9ZET, 535-8475  
Intruder and Non- Member Drunk Patrol - Darrell Sego, KM9S, 736-4049  
- Gregg Wood, WD9ENB, 888-0349

The Field Day Site will be reserved by Dan Dews, KK9G, 881-9792

## CLUB HAPPENINGS

Thanks to Larry Oaks, WB9YAJ, for the tour of the WISH Channel 8 facilities on December 19 last year.

The Liability Insurance premium for the club is paid and in effect, and the policy is for \$500,000.00. Of course, we sure hope we won't need it, but comforting to know it's there if we do.

The first reading of the proposed amendment to our constitution regarding family membership took place at the January meeting.

The amendment follows:

If there is more than one licensed amateur in a household, all may join in the same class of membership, upon payment of only one annual dues.

Final adoption of the proposed amendment is pending on the March 16 meeting.

Is your ARRL subscription almost up? Don't forget, the club gets \$2.00 if you go through Midstate ARC for your renewal. Simply write the club a check for your \$25.00, and in turn our illustrious secretary will forward ARRL a check for \$23.00. After all, two bucks is two bucks, and it all adds up in everyone's favor. Tom's phone number is 535-8047.

If you haven't been listening on Sunday nights to the Johnson Co. ARES/ Midstate ARC net, you've been missing something. Mac, W9JZV religiously shows up with the Westlink Report from California. This taped broadcast is targeted to the ham, and keeps us up to date with all the happenings in our hobby.

The Midstate ARC library is getting big. If you have alot of amateur/electronics magazines, and have been toying with the idea of throwing them away, look no further. Our illustrious secretary always needs them, and carefully files them for club use. If there is a special project in a magazine you've long since relegated to the trash heap, and don't know where to turn, give Tom a call. Take a look at all that spotless Collins gear while you're there. His number is 535-8047.

There were 30 hungry Hams packed in the House of Franklin at the January 19th breakfast meeting. Many thanks to Dave Crockett and Ron Hudson for a fine presentation on the Civil Defense activities in the state. Everyone needs the Radio Amateur for help in emergencies, and the Civil Defense is no exception. For more information on how you can help, contact Dave, WA9ZCE or the editor. Dave hangs out on the 16/76 and the 19/79 machines.



We want to thank everyone who helped make the Christmas message program at the Masonic and Methodist Homes a 100% success! Without the member's support this would not have happened. Likewise, the sincere thanks that we all received from those sending the messages was a warm and loving "Thank you". Two people have to be singled out for special praise, those being Homer "OZZ" and Sandy "RDF". Without their help we would have never moved the 264 messages in time for Christmas. Again, thanks Sandy, Homer and all.

ED  
WD9DVA

## **Ham of the Day**

**N9AZD/R**

**145.45 MHz**

Dan Cammack, W9MLN

Dan was sure excited when informed he was the Ham of the Day. "It's a joy and a priviledge..." (he went on and on). Dan is certainly an old timer; he got his first ticket at the age of 15 in 1947, after building a bootleg file a mile long at the FCC. He ran the Marine Corps Net Outlet for the West Coast in high school, and hails from Minneanapolis, Minnesota. He and his lovely wife Mary were married in 1947 (she assures him) and had two harmonics. The Cammacks move here in 1966, whereupon Dan proceeded to assemble a large variety of vintage gear that he can't seem to get rid of to this day (look for his booth at the Swapfest; it's the BIG one in the center). He has held the following calls: WOJVZ, W8ICE, a-<sup>1</sup> K4FDU, and is active on the Q\_ net on 3656 MHZ. If you ever have the chance to see his shack, don't miss it. The dazzling array of mammoth VHF gear and half-finished projects is sure to amuse you.

Who will be the next Ham of the Day?

Need more info on getting involved in Civil  
defense activities? Here is Ron Hudson's card.



**RONALD D. HUDSON  
RADIOLOGICAL SYSTEMS  
MAINTENANCE & COMMUNICATIONS**

## **Indiana Department of Civil Defense**

ROOM 908, STATE OFFICE BLDG.  
100 N. SENATE AVENUE                    OFFICE (317) 232-3849  
INDIANAPOLIS, IN 46204                    SHOP (317) 362-3722



## II. S. Amateur Statistics

For the period ending September 1984, there were 409,923 licensed U. S. amateurs, a drop from 410,767 at the same time last year. During the period covered there were 18,800 newly licensed amateurs compared to 20,940 during the previous year. The break down of the 409,923 by class of license is shown below.

Novice	20%
Technician	20%
General	29%
Advance	23%
Extra	8%

Good news travels fast! As we continue to lead area clubs in public service, we find hard work pays off. The \$600 grant for our repeater will be put to good use. To effectively coordinate public service events in our area, improving coverage for hand-helds becomes top priority. By the next newsletter, we should have all improvements completed.

The logbook has four entries for the last two months. Early December had WB9YAJ swapping out a 6BH6 squelch tube. At the end of the month, vacation time allowed me to reshield and retune finals and establish more audio "punch" by resetting audio in the controller and transmitter. My next visit a few days later was with lab gear to officially check the handiwork and record performance.

The specs are as follows:

0.25 micro-volts sensitivity.

300 watts output.

5 Kc Max deviation  
with 3-5 Kc input

Transmitter Freq is  
145.44992 MHZ.

It is important to note these measurements were through the cavities built by WB9YAJ. This is a good example of how well Larry's cavities work. Losses are only about 2db. Larry and myself made one final visit to further reduce the hum.

Let us know what you would like to have in the way of additions to your repeater.

Dave  
KN9E

# QRM de NB9M

This is a projects issue, and contains a high performance RTTY Terminal Unit for your Vic, Commodore 64 or Apple computer. Because of the amount of space these projects take up in the newsletter, it is impractical to have a project in every newsletter. I would like to have some comments on particular projects you would like to see, or would welcome any you send in. We're looking for unique, useful items that are totally homebrew from start to finish; not pulled from an amateur magazine.

Also, we are in the midst of a membership drive. No, we will not assault the prospective member with old movies, concerts and celebrities.

We only want to show the hams in the area what is available to them for involvement. For those of you who are receiving this newsletter for the first time, allow me to invite you to attend the Midstate breakfast meeting, held at the House of Franklin at 7:30am, March 16. The meeting follows at 8:00. We know it's early, but once you go you'll know why we all show up! We also have an active repeater on 145.45 MHZ, down 6, with a net every Sunday night at 7:00pm. Much more will happen this year, and we invite you to be a part of it! Please feel free to call me at 882-5245 or our president, Paul Thomas at 881-6338.

Brad  
NB9M

Heath 2-meter handheld Model VF 20301  
Loaded with extras, CHEAP!!  
Call Tom N9AZD 535-8047

Model 14AA Teletype, Rebuilt  
With Hal STS Terminal Interface \$35  
Call Dan W9MLN 888-9877

Viking II VFO, ready for FM, \$10  
WRL 2 and 6 Meter VFO, \$15  
200 Watt 10 Meter Amp, \$40  
Call Dan W9MLN 888-9877

The following items were the belongings of Silent Key,  
Don Lassiter:

Yaesu FT101EE with YC601 Digital Display, Landliner,  
Desk Mic, MFJ Versa Tuner III (1.5 KW), Trap 40 Meter  
Inverted Vee. If interested, please contact John McCartney  
at 881-1417. The price is only \$650

Nice computer table, like new, Dave KA9OOH, ph 784-1044.

IF YOU HAVE AN ITEM YOU WOULD LIKE TO HAVE LISTED FOR SALE IN HAM HOCKS, YOU ONLY NEED TWO THINGS: CLUB MEMBERSHIP AND MY TELEPHONE NUMBER, 882-5245. OF COURSE, CHECK WITH WA9RDF IF YOU ARE LOOKING FOR SOMETHING, TOO! -Ed

## Hamhocks

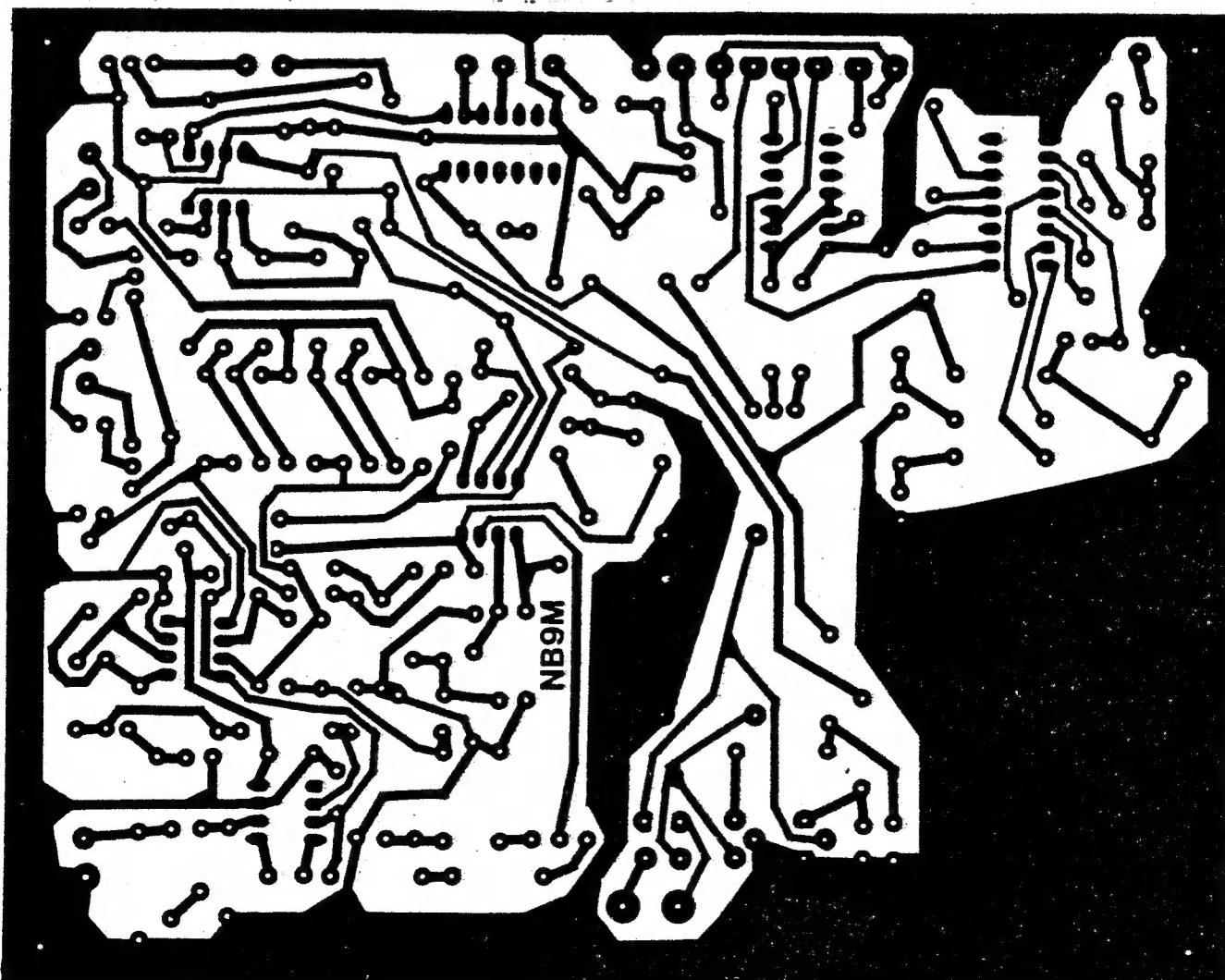
# PROJECTS

This is the first of two newsletters which will feature Terminal Units for your TTL based computer. Last month I briefly described a CW T.U., however, due to popular demand, the RTTY unit will be first. This Terminal Unit interfaces your Apple, or Commodore computer to your transceiver. It is compatible with most types of software, and is used in my shack with Hamsoft.

Initial credit for the design goes to Jim Rinehart, WB9CEP, and is used by many RTTY enthusiasts in the area. The performance is very good, and compares favorably with units costing three times this investment on the commercial market.

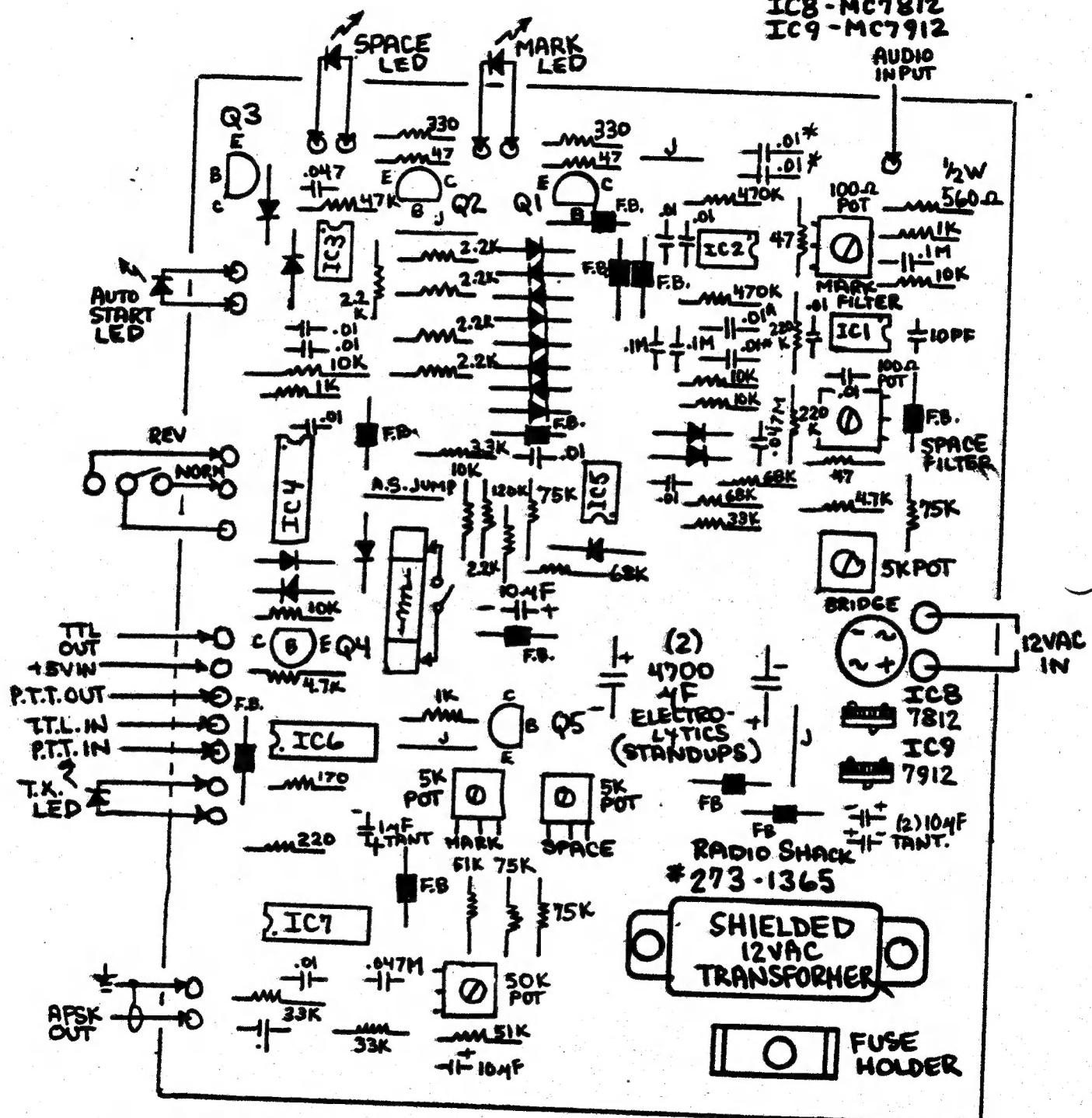
Many hams have been disenchanted with RTTY when attempting to use low priced, poor performing PLL based terminal units. PLL units work acceptably well on the VHF/UHF bands, but are very cranky when they have to deal with the noise and confusion on our HF bands.

Most parts are available at Radio Shack and the average junk box. The only critical components are the .01 microfarad capacitors, shown with an asterisk. Please call the editor if you have any problems, and I promise to help from start to finish.



HIGH PERFORMANCE  
R.T.T.Y. INTERFACE  
PARTS LAYOUT, VIEWED  
FROM COMPONENT SIDE

IC1 = LM301AN  
IC2, IC3 = LF353  
IC5 = LF353  
IC4 = CD40106, SN74111  
IC6 = SN7400  
IC7 = XR2206  
IC8 = MC7812  
IC9 = MC7912



ALL TRANSISTORS  
2N3904, 2N2222  
OR EQUIV. GENERAL  
PURPOSE NPN'S

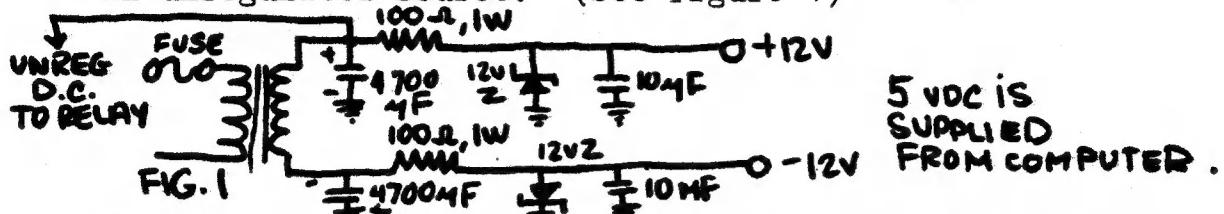
F.B. =  
FERRITE  
BEAD ON  
JUMPER

ALL DIODES EXCEPT BRIDGE  
ARE IN 4148, 1N914 OR EQUIV.

P.C. BOARDS AVAILABLE, IMPERFECTS ARE \$5.00  
FIRSTS ARE \$8.00

CONSTRUCTION NOTES:

This terminal unit utilizes a SPST reed-relay for P.T.T switching, making it compatible with any rig. Three terminal regulators were chosen over a simple zener supply because of their availability only; zener regulation works nicely if the reed relay is wired to an unregulated source. (see Figure 1)



The use of ferrite beads and numerous bypass capacitors is recommended to reduce power supply noise, thereby providing consistent copy at speeds of 110 baud. The jumper wire marked "A.S." can be removed and replaced with a front panel switch. The auto start is basically a squelch circuit, and prevents garble on your monitor when RTTY transmissions are not present. When using the auto start feature, a one to two second delay before print is normal. The A.S. LED is a handy way to determine if the terminal unit has "locked on" to the signal. By using a DPDT normal-reverse switch, and an unused portion of the inverter, inverted transmission is easily accomplished.

When aligning your unit, the use of an accurate audio generator and scope is recommended. But let's face it, few of us have them. A lot of patience and strong signals can be used. Adjust the 100 ohm filter pots for the respective tones, and then set the 5k AFSK pots by taking the AFSK output cables and plugging them into the limiter inputs. This is not nearly as hard as it sounds, but if you bring your completed unit to me I would be glad to line it up for you.

Again, feel free to call me at 882-5245 if you have any questions. If you would like to see one of these terminal units in action, I'll put on the coffee pot!

Brad  
NB9M

185  
⑤

ALL TTL REFERENCES ARE  
NORMALLY HIGH, ACTIVE LOW

**ALL TTL REFERENCES ARE  
NORMALLY HIGH, ACTIVE LOW**

